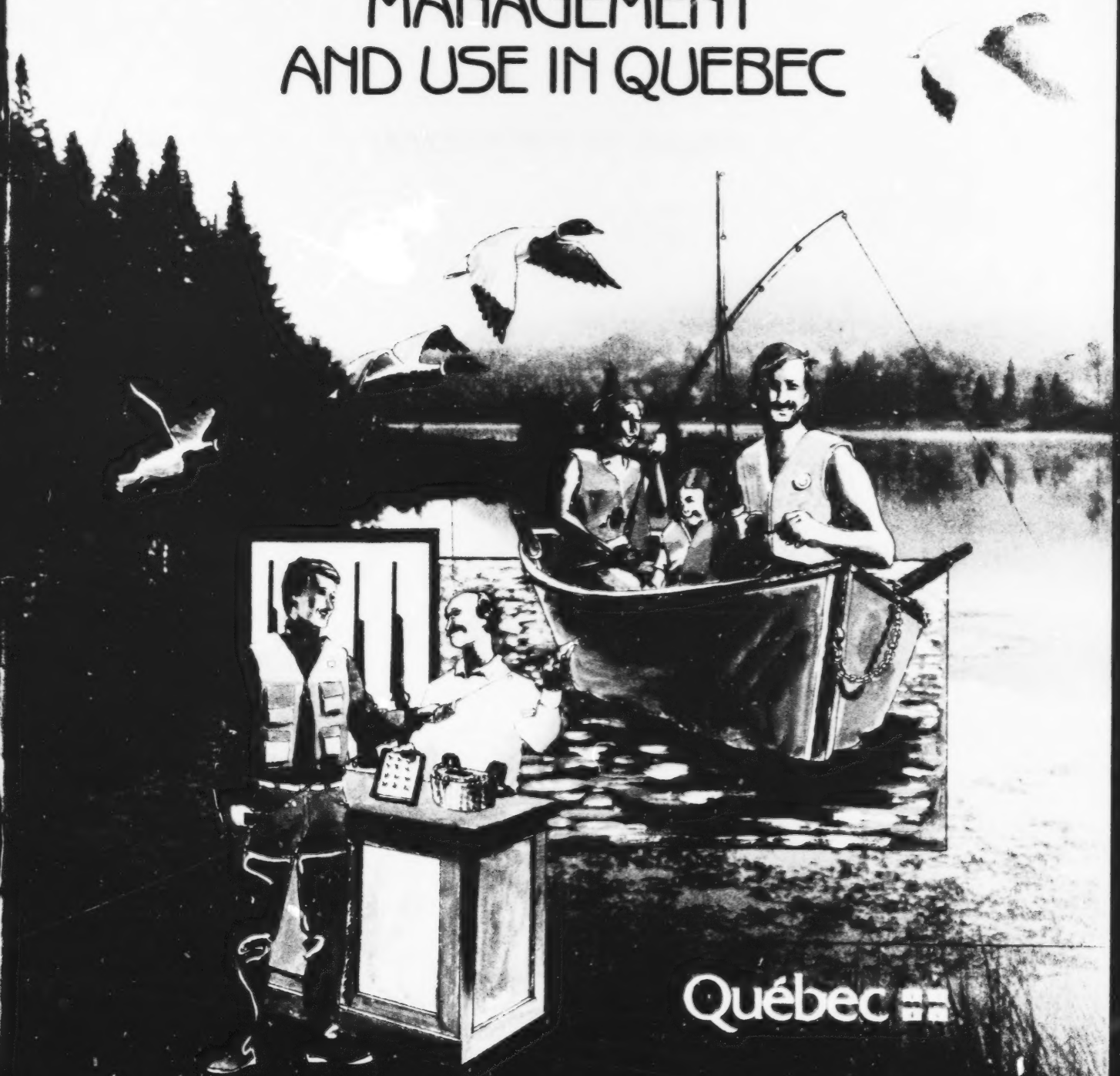
WILDLIFE MANAGEMENT AND USE IN QUEBEC



Québec

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WILDLIFE MANAGEMENT

AND USE

IN QUÉBEC

DEVELOPMENT STRATEGIES

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IN TRODUC TION

The public has always shown considerable interest in the wildlife resources of our forests and waters and in the opportunities they provide for leisure activities. However, such an interest has often resulted in controversy over wildlife use and conflicts of varying degrees have long existed between the various users of the territory. Such conflicts have led to substantial losses of wildlife habitats and to a decrease both in the numbers and in the quality of wildlife populations.

These conflicts and the attachment shown by the people of Québec for wildlife resources make it easy to understand why, very early on, the public called upon the authorities to assume the responsibility of protecting and conserving that heritage.

When they assumed that responsibility, the authorities had to adopt various structures, regulations or specific programs. It should be noted that some of the steps taken have not always met with the approval of the users or the public and have sometimes come under heavy criticism. Without mentioning the trials and tribulations of wildlife management and use in Québec, it may prove useful to review or to reassess the present situation and to start discussing the place which should be given to wildlife and its development.

These are the two objectives which have guided this publication.

To begin, the ministère du Loisir, de la Chasse et de la Pêche will prepare an assessment of the situation, in which it will outline the strengths and weaknesses of the measures taken as well as stress the main present and possible problems.

Next, the Department will specify the direction to be taken, bearing in mind public expectations and the biological constraints of wildlife populations and habitats. That section will outline the basic principles which will help bring about slight shifts or basic changes in the way we think and act about wildlife management.

The Department will then develop a set of strategies which, when implemented, should lead to a coherent development of wildlife use. These strategies will generally be inspired by the reaffirmation of certain objectives already established by the ministère du Loisir, de la Chasse et de la Pêche, or by the emergence of new challenges.

PART 1

THE PRESENT SITUATION

1.1 HUMAN ACTIVITY AND ITS IMPACT ON WILDLIFE HABITAT

Québec stretches over more than 1,6 million square kilometers between the 45th and the 63rd parallels. The size of that territory results in a great variety of biomes (1), from the temperate hardwood zones to the inhospitable expanse of moss and lichen of the tundra. The variety and productivity of animal and vegetal populations depend on the physical and climatic conditions of their environment. Geological history and important seasonal variations are two major factors which also explain the distribution of wildlife in Québec.

Not counting the estuary and a large part of the Gulf of the St. Lawrence, close to 18% of Québec (292 000 square kilometers) is covered by water, about half of it fresh water (140 000 square kilometers). Although their actual number could be ten times higher, 4 500 rivers have been inventoried. It is also estimated that Québec may have about 300 000 lakes. Land makes up 82% of the territory, 85% of it owned by the government (1 153 000 square kilometers).

(1) Biome: an homogenous ecological system made up of animal and vegetal life spread out over a very wide area.

Through some activities, man can deeply alter the nature of the environment and the relationships between its various components, to the point of changing the main characteristics which make it a favorable habitat for certain types of wildlife, or even to the point of making it sterile. The present levels of resource exploitation and the methods used result in a deep transformation of habitats. It is therefore obvious that the status of wildlife habitats and the existence of wildlife are very dependent on man's actions.

Québec's human population is very unevenly distributed. Approximately 80% of its 6 000 000 inhabitants live in cities and close to two thirds of them along the St. Lawrence, mainly in the Québec City-Sherbrooke-Montréal triangle.

Most human activity is concentrated in areas covered by mixed and pine forests.

Agricultural activity is concentrated in the St. Lawrence Valley, around Lac St-Jean and along the Ottawa River, up to Lake Abitibi. Agricultural land covers 44 000 square kilometers, 26 000 of which have been cleared. The development of agriculture has had and still has negative effects on several

environments favourable to animal life. Farming can almost totally destroy the forest cover needed by birds and other animals, or lead to numerous changes in the water environment. Clearing and draining land also profoundly change the flow and warming up conditions of bodies of water. The application of fertilizers, the discharge of manure as well as erosion alter the quality of the water and that often leads to the substitution of some species by others, often less desirable. However, depending on the methods used, the development of the agricultural and forest resources could be one of the areas of human activity most beneficial to wildlife.

Logging has already affected and continues to affect the greater part of Québec's mixed and pine forests. For some years now, logging activity has spread to the spruce forests. While it offers the advantage of opening up roads all over Québec, logging still remains wildlife's main competitor for a resource which is vital to both: the forest. Although the two can coexist, sometimes to the benefit of both, such coexistence can also prove devastating if strict rules of habitat management are not followed.

The effects of tree felling are compounded by the effects of storage and transportation methods, particularly floating. It should be recalled that close to 45% of the timber cut each year on Québec's public lands (i.e. 3 000 000 cunits) is floated. The adverse physical and chemical effects of floating timber on wildlife habitats have been demonstrated beyond a doubt. Finally, the forestry sector, like the agricultural sector, uses large quantities of chemicals (insecticides, fungicides and even silvicides) in its search for optimum productivity. The medium and long term effects of those chemicals on wildlife resources are still unknown.

While the **urban areas** only take up 3 500 square kilometers in Québec, their population totals over 4,5 million people, and so the effects of urbanization are felt very strongly in the surrounding areas. Each year, built-up areas discharge over 3 million tons of solid waste and close to 7 billion liters of waste water. While most of the solid waste is sent to sanitary landfills or incinerators, most of the sewage is discharged in the river system.

Resorts also affect wildlife because they tend to be concentrated around bodies of water in areas of the province most sought after by those pursuing leisure activities. In forest areas, resorts create zones of "mini-urbanization" with all the associated drawbacks: clearing, occupation and reclaiming of the environment, and pollution. Finally, one must also consider the other effects on wildlife habitat caused by

urbanization-related activities: the spreading of thousands of tons of salt on the roads in the winter and the excavation, preparation and redistribution of thousands of cubic meters of sand, stone, gravel, rocks, etc., and the production and transmission of electric power.

Closely linked to urbanization, industrial activity also takes its toll on wildlife and its habitat. The huge amounts of waste discharged in the water, on the ground or in the air and the high toxicity of that waste are amoung the main factors which have led to the decline of some species and the deterioration of their habitat. When one takes into account the 250 000 tons of solid waste discharged each year in the water by the paper industry alone, the extent of the acid rain problem, the contamination of game by mercury or PCBs(1), or any other forms of pollution, it is easy to understand why industry is often identified as the main culprit in the degradation of wildlife habitat.

Industry-related activities also take a heavy toll on nature and often present great dangers for wildlife habitats: water transportation and its effects on spawning and nesting grounds, dredging of the Seaway, transportation of petroleum products, oil spills, etc.

For some years, the cumulative effect of these assaults on nature has become more pronounced. It has become obvious that the loss of various habitats is like a cancer which eats away at wildlife resources. Being aware of the problem, the ministère du Loisir, de la Chasse et de la Pêche is directing more and more of its efforts towards the protection of wildlife habitats. This new concept of wildlife management gives the Department a role to play in land use decisions and gives wildlife the status of a natural renewable resource. The ministère du Loisir, de la Chasse et de la Pêche must now work within the framework of an integrated land use process, hand in hand with other government departments, semi-public agencies and the private sector. Present philosophies of wildlife management do not sufficiently stress the habitat-wildlife relationship although it is the keystone of natural productivity.

1.2 WILDLIFE SUPPLY AND HARVEST

A consideration of the spatial distribution of the human population, its activities and its impact, had led to the division of the province into three large zones called Planning Zones I, II and III. Zone I corresponds to the

(1) PCB: Polychlorinated biphenyl

inhabited area and includes the agricultural zone, private lands and a small strip of public lands. Zone II comprises almost exclusively public lands and includes that part of the province where are found the majority of commercial forests such as pine forests, as well as the majority of parks, reserves, ZECs (zones where exploitation is controlled) and outfitter establishments.

Zone III, bounded to the South by the division between the pine forest and the spruce forest, covers the rest of Québec, and its resources have only started to be developed. That macro-zoning of Québec also delineates three main regions where wildlife management should be centered around specific conservation, use and development objectives.

The potential use and, mainly, the potential harvest of wildlife species considered to be of recreational interest in Québec have been estimated from the existing inventories and available

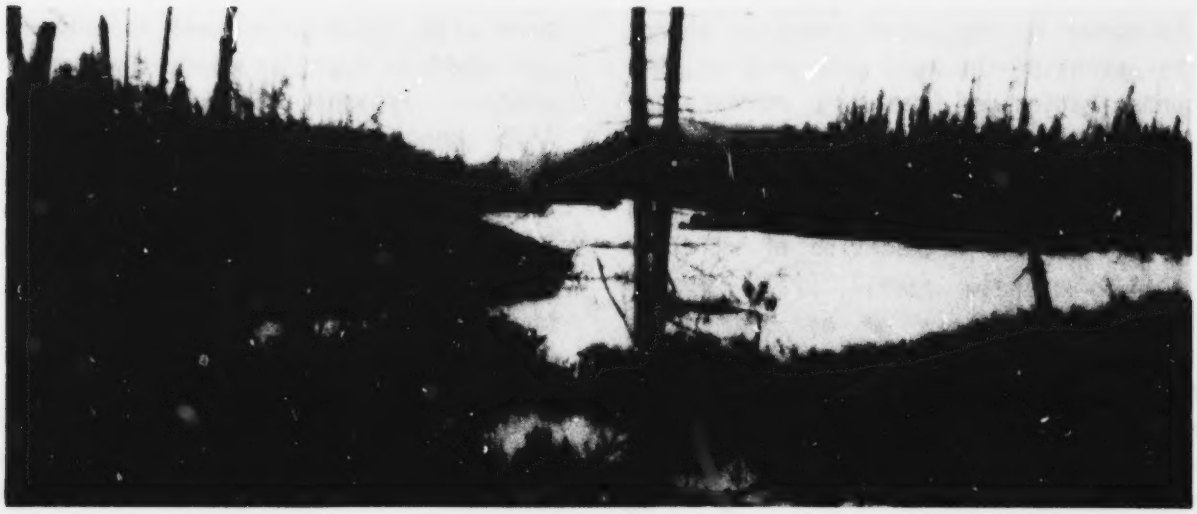
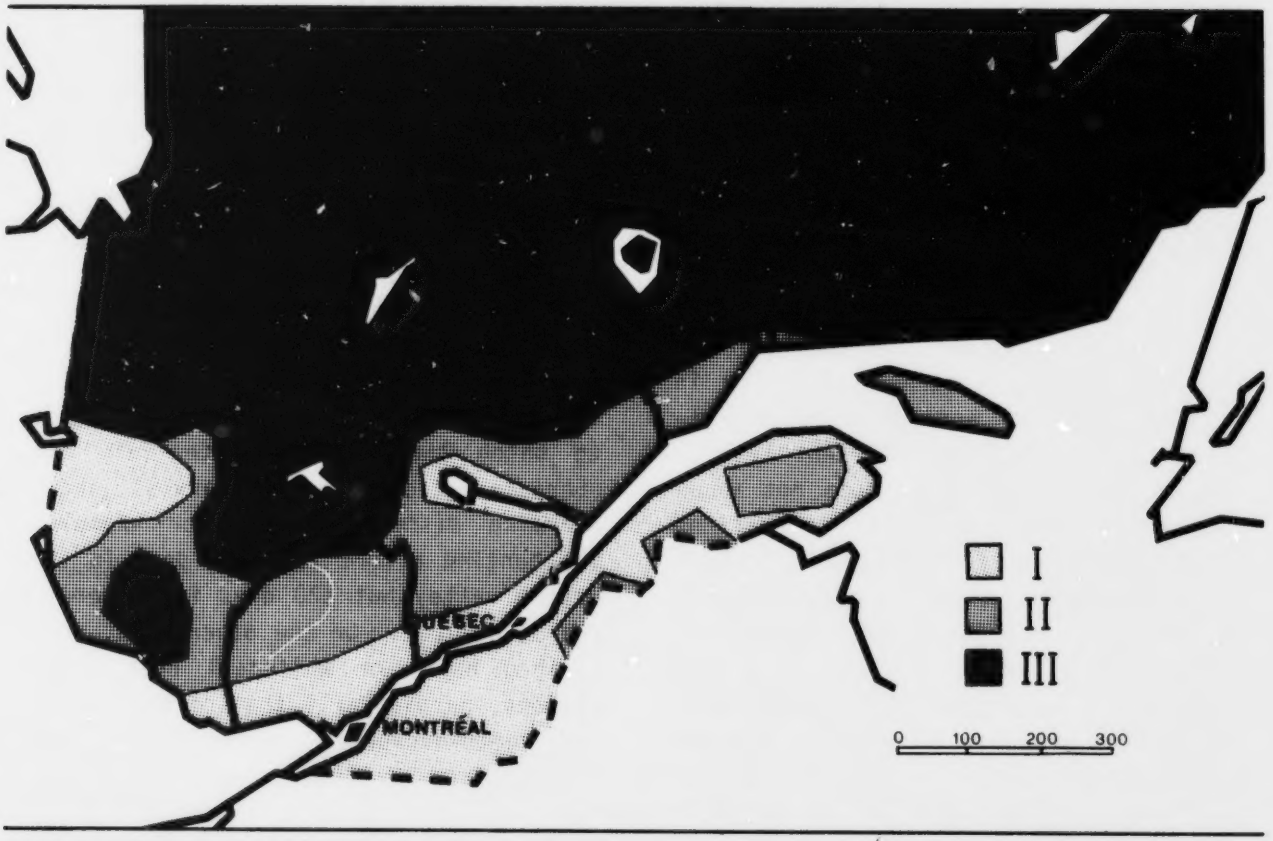


Photo: Pierre Pouliot

PLANNING ZONES



information on Québec wildlife, often from purely empirical data. Needless to say, the basic data are incomplete and the derived estimations give only an order of magnitude of the phenomena in question.

The present structure of wildlife use has also been evaluated, especially that of hunting and fishing, through users surveys. That evaluation took into account the existence of a freshwater the exclusive rights granted to native people in certain areas.

The conclusion drawn is that, in principle, the wildlife of the province has the potential to absorb an increase in fishing, hunting and trapping activities, up to double the present levels. However, this conclusion does not accurately reflect sectorial situations which give cause for concern. In Zone I, for instance, there is a net deficit of the most sought-after species of fish, such as pike, walleye, bass and most of all salmonidae. In some cases, the harvest probably exceeds the maximum biologically tolerable level to ensure the long term presence of an abundant and diversified wildlife. It should also be pointed out that such an imbalance cannot be avoided with our present management practices. In Zone II, even if there seems to be some balance between the potential and the harvest of pike and walleye, the analysis shows that the salmonidae deficit is even more pronounced than in Zone I. If one considers that Zone II includes almost all parks and reserves, ZECs and outfitter establishments where harvest levels are usually controlled, one may assume that the adjacent open territory is over-harvested, especially in the Mauricie area and the area North of Montréal.

Hunting mammals and birds also presents a problem in Québec. Some species, groups of species or populations are subjected to harvesting levels which do not correspond to their harvestable potential. Depending on the individual cases, there may be under-harvesting or over-harvesting.

If, on the whole, moose harvesting seems to match the existing potential, the characteristics of its harvest shows alarming discrepancies. For example, the hunting effort lasts 40 days in the Ottawa valley but 120 days in Saguenay-Lac-Saint-Jean. On the other hand, some caribou herds or whitetail deer populations, particularly that of Anticosti, are under-harvested, while others are clearly over-harvested.

Given their biological characteristics and the local fluctuations of the populations, it would be fairly meaningless to make a provincial assessment of small game. The local conditions and population dynamics of harvested small game are so little known that it is practically impossible to assess the impact of

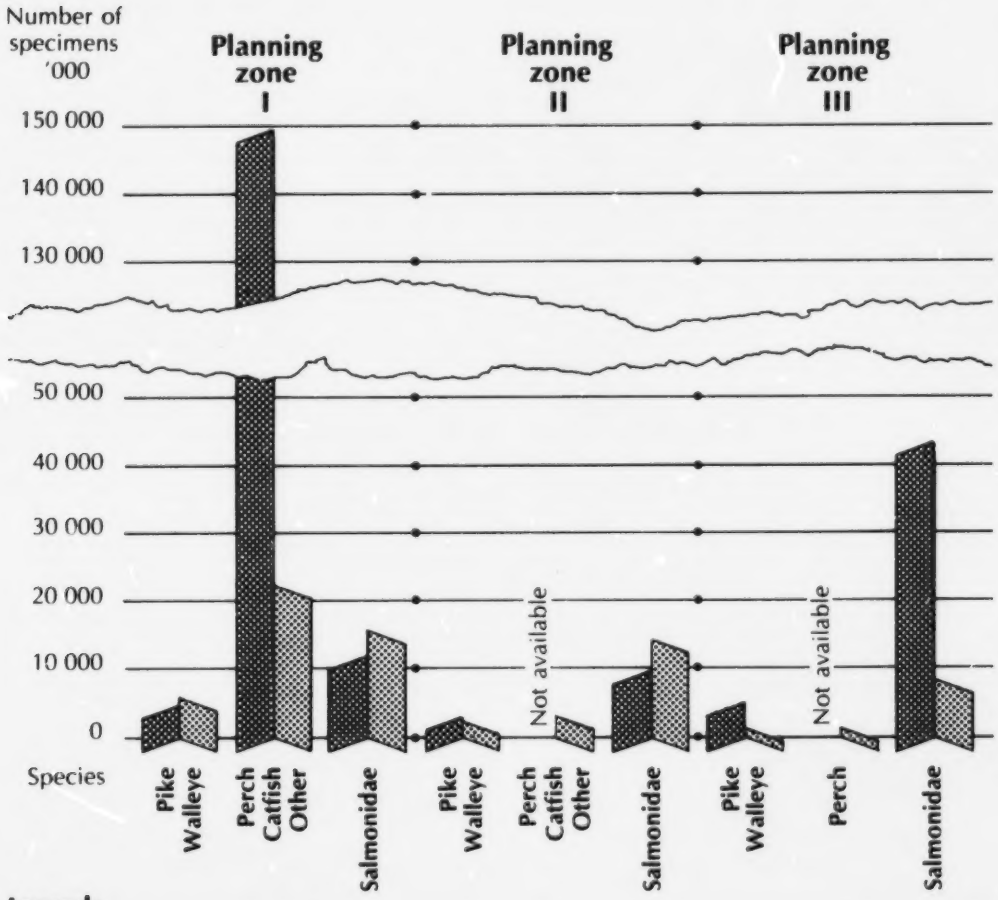
Level and value of the yearly harvest of aquatic life in Quebec, by species and harvesting method

	Level of harvesting					
	Commercial fishing		Recreational fishing		Subsistence fishing	
	Quantity(1) t	Value '000 $	Quantity t	Value '000 $	Quantity t	Value '000 $
Coastal and deep-sea fishing						
Cod	26 325	9 788,2	..	..	53,7	19,9
Haddock	8 289	1 727,5	...	...	...	...
Halibut	62	174,8	...	...	...	...
Plaice	4 895	1 292,1	...	...	...	...
Hake	447	87,1	...	...	...	...
Flounder	4 466	1 387,5	...	...	...	...
Herring	5 885	1 003,0	...	...	...	...
Mackerel	942	160,0	..	..	..	..
Salmon	80	285,5	90	321,2	64,5	230,2
Smelt	594	221,7	..	..	...	...
Scallop	90	363,6	...	...	...	...
Lobster	1 597	5 386,4	...	...	...	...
Crab	2 409	1 445,5	...	...	...	...
Shrimp	3 843	3 668,3	...	...	...	...
Other	1 352	1 904,8	500	704,4	..	..
Inland fishing						
Cisco	...	...	..	..	39,15	43,1
Eel	154,7	352,1	..	..	...	...
Catfish	168,2	111,9	342	227,5	...	...
Lake catfish	3,8	3,8	..	..	...	...
Walleye	4,9	8,9	2 376	4 315,6	54,05	98,2
Whitefish	10,9	12,0	..	..	176,8	160,6
Pike	3,6	3,8	4 186	4 418,6	...	...
Tomcod	62,3	28,6	185	84,9	...	...
Perch	102,8	110,5	1 458	1 567,2	...	...
Sunfish	10,2	8,0	..	..	...	...
Carp	32,7	13,5	..	..	...	...
Shad	3,2	1,8	..	..	...	...
Smelt	0,52	0,3	..	..	...	...
Sturgeon	53,8	101,8	..	..	14	26,5
Minnow(2)	35,0	222,0	..	..	...	...
Bass	...	...	828	874,1	...	...
Trout and Char	...	...	3 510	5 089,5	1 283,8	1 861,5
Burbot	...	...	..	..	24,1	
Sucker	...	...	..	..	91,6	234,2
Bullhead	...	...	..	..	6,3	
Other	0,56	0,2	159	56,8	..	..
TOTAL	61 923,2	29 875,2	13 634,0	17 659,8	1 808,0	2 674,4

NOTES: .. : no available data
... : not applicable
(1) : "t" stands for metric ton
(2) : includes several species, mostly cyprinidae.

SOURCE: Pelletier Jacques, Lacasse Marcel, Lamontagne Gilles, Ducharme Jean-Luc, "Aménagement et utilisation de la faune au Québec. Répertoire des données". Direction de la planification. MLCP. 1981.

COMPARISON BETWEEN THE ACTUAL HARVEST AND THE POTENTIAL HARVEST OF AQUATIC LIFE, BY PLANNING ZONE



Legend:

Potential harvest

Actual harvest

Source:

Pelletier, Jacques; Lacasse, Marcel; Lamontagne, Gilles; Ducharme, Jean-Luc; «Aménagement et utilisation de la faune au Québec. Répertoire des données.» Direction de la planification. M.L.C. P. Avril 1981.

the present harvesting on these populations. At most, certain data would seem to indicate that species considered as small game are heavily harvested in hunting areas close to urban centers. As far as migratory birds are concerned, even though part of the harvesting only affects populations from outside Québec, it seems that a reappraisal of harvesting is in order.

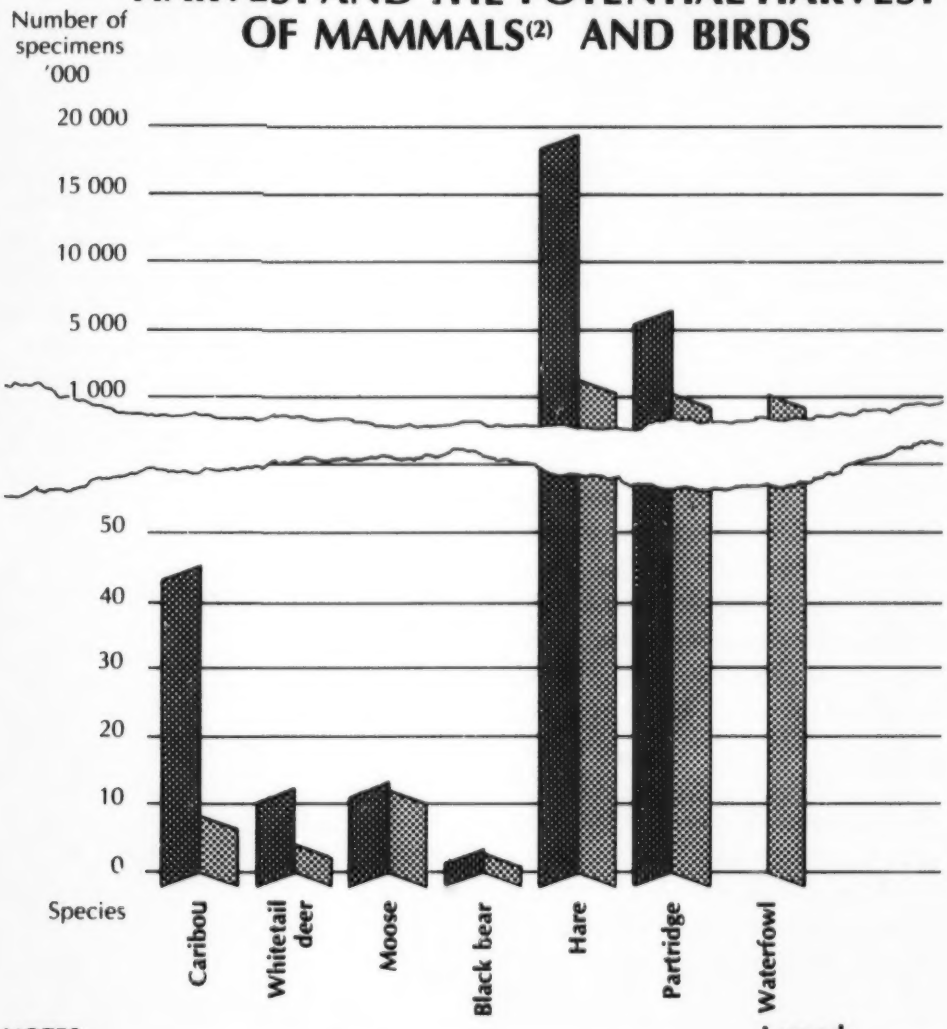
A serious lack of data prevents us from reaching a conclusion as far as furbearing animals are concerned. Their harvesting depends much more on the conditions of the fur market than on their potential. Thus, while fox harvesting seems to be in balance with its potential, a more detailed analysis shows that harvesting levels have reached 178% in Planning Zones I and II.

While the ministère du Loisir, de la Chasse et de la Pêche is aware that reptile harvesting takes place in varying amounts depending on the area, there is absolutely no data on existing populations.

It seems, therefore, that there is an imbalance in the harvesting of some species in Québec. The present harvesting structure already appears incompatible with the capacity of some environments or some species. Furthermore, in the majority of cases, the indicators now used by the Department do not allow for a sufficiently precise or rapid analysis of the populations to take management action based on biological indicators.

This picture is far from complete because it does not take into account the rare or endangered species, endangered populations or even any species which is not subject to commercial or sport harvesting. As a rule, data on such species are sparse in Québec and do not lend themselves to a more specific geographical analysis.

COMPARISON[1] BETWEEN THE ACTUAL HARVEST AND THE POTENTIAL HARVEST OF MAMMALS[2] AND BIRDS



NOTES:

(1) The lack of data on the potential harvest of some species prevents us from giving a distribution by planning zone
(2) Excluding fur animals

Legend:

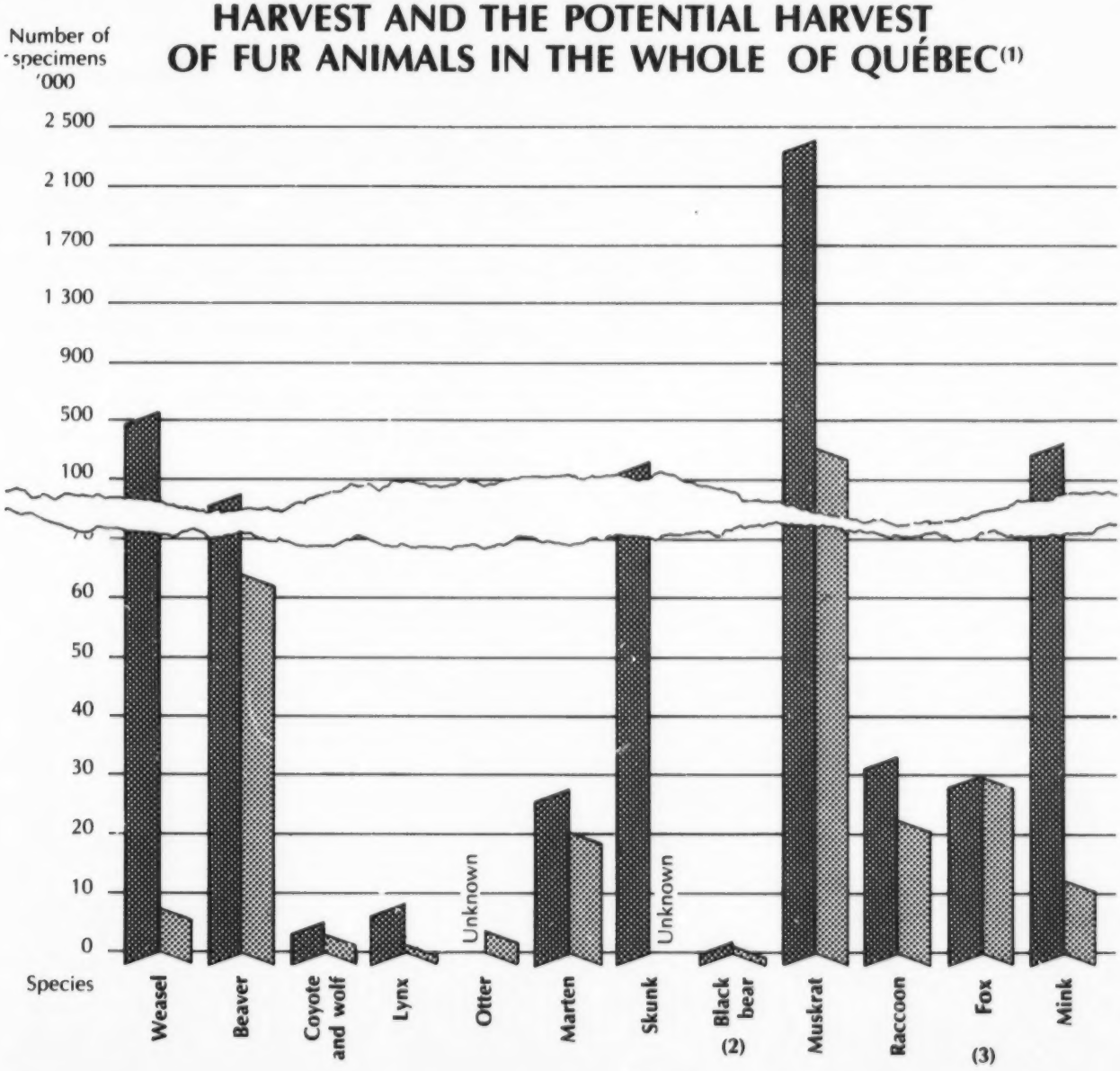
Potential harvest

Actual harvest

Source:

Pelletier, Jacques; Lacasse, Marcel; Lamontagne, Gilles; Ducharme, Jean-Luc; «Aménagement et utilisation de la faune au Québec. Répertoire des données.» Direction de la planification. M.L.C.P. Avril 1981.

COMPARISON BETWEEN THE ACTUAL HARVEST AND THE POTENTIAL HARVEST OF FUR ANIMALS IN THE WHOLE OF QUÉBEC(1)



NOTES:

(1) Including harvesting by Natives
(2) Harvesting rate of 100% in zones I and II
(3) Harvesting rate of 178% in zones I and II

Legend :

Potential harvest

Actual harvest

Source:

Pelletier, Jacques; Lacasse, Marcel; Lamontagne, Gilles; Ducharme, Jean-Luc; «Aménagement et utilisation de la faune au Québec. Répertoire des données.» Direction de la planification. M.L.C.P. Avril 1981.

1.3 THE DEMAND

The use of wildlife for recreational purposes entails, depending on the individuals, devoting a greater or smaller number of days in the search for species likely to bring the desired satisfaction. Success, i.e. encounter with the animals in question, constitutes of course a major element of that satisfaction. One of the roles of the wildlife manager consists therefore in providing users with acceptable opportunities during the practice of their recreational activities. Thus, the presence of an abundant and varied wildlife should enable non-consumptive users to have a fair chance of encountering wildlife. As far as consumptive activities is concerned, management must be more refined since success implies wildlife harvest. The wildlife manager must therefore provide the users with some measure of success while ensuring that the wildlife remains abundant and that the harvesting potential is not compromised in the long term.

So, taking into account the number of biologically harvestable specimens and the average effort required for their recreational harvesting, there could be 57,5 million recreation days in Québec, of which 37,5 million would be for fishing and 20 million for hunting, including fur animal trapping. However, such a potential must be distributed between the recreational, commercial and subsistence activities and the number of recreation days will therefore depend on the resource allocation plans.

Estimations for 1980 indicate that the total demand for consumptive activities is about 17,4 million recreation days (11,6 million fishing days, 4,2 million hunting days and about 1 million days for trapping). Most of that demand originates from Quebecers and only 624 000 days are attributable to non-residents.

Data on participation in non-consumptive activities not only demonstrate their great popularity but also provide a good indication of the importance given by Quebecers to wildlife resources. More than 70% of Quebecers feel it is important to maintain abundant wildlife populations and to protect endangered species.

In 1980, close to one million Quebecers have made trips for the specific purpose of pursuing activities such as observing or photographing animals and they have devoted 14,7 million days to such activities. Furthermore, more than half of all Quebecers regularly observe, feed or photograph animals near their home.

Such a level of participation in wildlife-related activities results from a sustained increase in participation by a population which is itself in the midst of social evolution.

Amongst other things, the participation rates of Quebecers in consumptive activities have increased considerably over the last 15 years and everything seems to show that that trend will continue over the coming years.

The growth of participation in non-consumptive activities has been rather confused and seems to be strongly linked to environmental trends. Right now, its rate is difficult to determine, just as was the case, for a while, with the growth of snowmobiling and cross-country skiing. However, comparisons drawn between changes in attitudes and behaviour about wildlife related activities in Québec and in other

Photo: Pierre Bernier

EXPRESSED DEMAND FOR WILDLIFE-RELATED RECREATIONAL ACTIVITIES

ACTIVITY	NUMBER OF PARTICIPANTS(1) ('000)	NUMBER OF DAYS ('000)	AVERAGE (days)
Fishing	933,0	11 158,1	11,9
Hunting	380,8	4 213,5	11,1
Trapping	57,2	981,0	17,2
Non-consumptive activities close to home	3 208,8	150 172,1	46,8
Non-consumptive activities during pleasure or business trips (2)	1 894,3	33 529,0	17,7
Trips made specifically to observe, photograph, feed or study wildlife	944,7	14 736,5	15,6

NOTES: The data on non-consumptive activities could be revised following statistical analysis in progress.

(1) Participants from Québec, 15 years and older in 1980 for fishing, hunting and trapping and in 1981 for other activities.

(2) Activities pursued during trips made for other purposes than to observe, feed, photograph or study wild animals.

SOURCES: LACASSE Marcel, Jean-Luc DUCHARME et Jacques PELLETIER, "Le loisir relié à l'utilisation de la faune au Québec". M.L.C.P. D.G.F. 1982. 320 pages.

FILION, Fernand, Stephen JAMES, Jean-Luc DUCHARME et al., "L'importance de la faune pour les Canadiens: faits saillants de l'enquête nationale de 1981". Service canadien de la faune. 1983.

countries show that the Department will have to face, in the medium term, an increasing demand in non-consumptive activities, which will probably become stronger than the demand for consumptive activities.

In spite of the popularity of wildlife-related activities, a great many people cannot satisfy their needs in that area. There is, in fact, a substantial latent demand, that is to say a demand which, for a variety of reasons, cannot be expressed through the present accessibility structure. The people most affected are the elderly, the handicapped, family groups and the most active people. Furthermore, an analysis of users characteristics shows a very strong under-representation of women and of people over 45.

It must be added that our fellow Canadians as well as the Americans seem to have fewer and fewer incentives to come to our province to pursue their activities. Non-resident demand has declined over the last few years for many reasons but mainly economic ones. Also, while statistics on hunting and fishing activities by Quebecers outside the province show that over 109 000 anglers and 14 000 hunters have spent 385 000 fishing days and 108 000 hunting days respectively outside Québec, one can easily imagine that, in this period of economic uncertainty, that trend will tend to stabilize or even reverse itself.

Inter-regional movements could also decline. The province being as large as it is, trips can become expensive, especially when they require over nighting. The present 60/40 ratio between excursions and hunting or fishing trips could very well change and excursions could account for an even greater proportion of the total. Trips could also become longer. Those changes in Quebecers' behaviour will increase the demand in Zone I but, more important, those changes will accentuate the imbalances which now exist in wildlife use in Québec, mainly because of uncertainty or a lack of knowledge about certain species or certain areas.

Each year, a large variety of services are offered to users pursuing consumptive activities. In some instances, those services are merely "auxiliary" services such as launching ramps, because they give easier access to the wildlife without requiring an extensive infrastructure. In other cases, services offered are much more comprehensive: they can include accommodation, meals and wildlife-use control. The breakdown and use of those services must be analyzed on a regional basis in more detail than has been done up to now with the available data. However it should be pointed out that the organized infra-

structure (controlled-use zones, outfitters' camps, parks and reserves) is used for only 27% of recreation days. Public or private lands, where some auxiliary services are sometimes offered, account for all other days.

We noteworthy too is the importance of the proximity of hunting or fishing sites. From statistics gathered, it seems that over 93% of hunting and fishing trips are made within two hours' travel time from the home of the hunter or angler. As a result, the distribution of the demand, both from the point of view of quantity and variety, is clearly dependent on the distance between the hunting or fishing sites and the home of the user, and on the number of obstacles to be overcome gaining access to the sites.

It is therefore estimated that most recreation days take place in Zone I, especially hunting and fishing excursions. While it is foreseen that particular zone will experience the greater part of the expected increase in the demand, it has been found that services, both organized and auxiliary, are almost non-existent in that zone.

The situation is quite different in zone II, both because of the type of services offered and because, in most cases, users must overnight for at least one night. Demand is therefore directed mainly towards the infrastructure which

Photo: Marcel Lacasse

provides some certainty of access and reasonable chances of success, as well as accommodation availability. The use of auxiliary services is presently unknown in that zone. On the other hand, it is possible to measure attendance in territories where wildlife use is controlled.

In those territories, attendance varies greatly. It is estimated that, on average, ZECs account each year for 40,8 hunting and fishing days per square kilometer of territory, exclusive rights outfitter establishments account for 20 days, while parks and reserves with a comparable wildlife potential account for 12,3 hunting and fishing days per square kilometer. The gap is even greater when hunting is considered alone. However, parks and reserves account for an important number of days related either to non-consumptive activities or to outdoor recreation in general.

Furthermore, reserves, ZECs (zones where exploitation is controlled) and outfitter establishments have very specific roles, particularly when it comes to the use and conservation of wildlife resources, which interfere with their capacity to provide maximum hunting, fishing or trapping days.

Therefore it seems that all components of the organized structure do not contribute to spread out the demand more evenly or to decongest some areas according to their wildlife potential.

1.4 WILDLIFE MANAGEMENT

The management of a renewable natural resource and the management of its use refer to fundamentally different concepts. In the first case, the manager must control all the factors which can influence the resource (development, protection, conservation), while managing the use of a resource requires that the manager specify the conditions of use (regulation, standardization, control).

In the case of the wildlife in Quebec legislation gives the ministère du Loisir, de la Chasse et de la Pêche only the responsibility to manage the use of wildlife resources. The enabling legislation specifies that the Department must monitor and manage everything relating to hunting and fishing, with the exception of marine fisheries, promote the development of leisure activities, sport, hunting and fishing, and manage the provincial parks, hunting and fishing reserves and bird sanctuaries. However, the Department's actions about fishing are subject to federal approval and most migratory species are under the federal jurisdiction.

The present structure of the ministère du Loisir, de la Chasse et de la Pêche

Number of hunting and fishing days per km² by type of management

	Area	NUMBER OF FISHING DAYS		NUMBER OF HUNTING DAYS	
	in km²	Total	per km²	Total	per km²
Organized structure	266 787	3 515 850		769 619	
- Parks and reserves	108 000	1 157 976	10,7	171 266	1,6
- ZECs	41 573	1 374 255	33,0	326 249	7,8
- Outfitter establishments	12 638(1)	983 619	16,3(3)	272 104	3,7(3)
- Registered trapping grounds	104 576	--	--	--	--
Non-organized structure (open territory) - Undetermined	1 314 705	8 158 524	6,2	3 488 713	2,6
TOTAL	1 581 492	11 674 374(2)	7,3	4 258 332(2)	2,6

NOTES:

--: Data not available

(1) Territory covered by outfitter establishments with exclusive rights.

(2) Includes hunting and fishing days by Quebecers 15 years and older and by non-residents.

(3) Based on the number of fishing days (205 923) and hunting days (47 705) on outfitter establishments with exclusive rights in 1980.

SOURCES: LACASSE Marcel, Jean-Luc DUCHARME et Jacques PELLETIER, "Le loisir relié à l'utilisation de la faune au Québec". M.L.C.P. D.G.F. 1982. 320 pages.

Pelletier, Jacques - Lacasse, Marcel - Ducharme, Jean-Luc - Lamontagne, Gilles. "Aménagement et utilisation de la faune au Québec, Répertoire de données". Direction de la planification. M.L.C.P. Avril 1981.

gives the Direction générale de la faune the responsibility for planning, protection, biological research, development and exploitation functions. As far as the internal organization is concerned, there has been some regionalization of the Department's functions over the last 20 years. In the 60's, districts were created and the protection function was delegated to district offices. That decentralization was pursued more recently with the creation of regional offices. Regional administrations have been given more responsibilities as well as an active role in the completion of the Department's task. Later, regions were further subdivided into smaller territorial entities, the Development and Conservation Zones, to ensure better management of the wildlife resources and to create more readily manageable units. Another step in the reorganization of the Department was the creation of ZECs. It was deemed important to involve the public to a greater degree in the protection of the wildlife and the distribution of its use on the basis of biological criteria, since that task could not be undertaken, either physically or financially, by the Government alone.

More recently, the Direction générale de la faune was reorganized in 1982, in accordance with the Administrative Organization Master Plan.

Those changes have also led the ministère du Loisir, de la Chasse et de la Pêche to specify certain objectives, directions and missions which lie considerably outside the framework of the enabling legislation and which make the Direction générale de la faune a manager of wildlife resources rather than a manager of their use.

As a result, gamekeepers have become conservation officers. Biologists have had to assume managerial function and to get involved in developing resource management plans, a task for which their training had poorly prepared them. There was therefore a period of transition when new responsibilities were assumed by people driven more by youthful dynamism than by their experience in the field of resource management.

Whithin the framework of the old structure, wildlife research has turned towards the study of animal population dynamics and towards more basic research rather than taking a greater interest in resource management within the context of a diversified and optimum use. The 1982 restructuration, which favoured a closer link between the research and the development functions, has once more reaffirmed the wildlife management role to be played by the ministère du Loisir, de la Chasse et de la Pêche.

However, the means available to the Department have not progressed in the same direction and often do not meet the needs of its original mandate. In fact, licensing, permit tarification, subdividing Québec into various hunting, fishing and trapping zones, creating specific-use territories, and regulation activities enable the Department to intervene only after the fact to adjust the demand in relation to the available wildlife supply.

That explains several of the complaints received by the authorities. Since the media, users groups and a great many members of the public already perceive the Department as responsible for the management of wildlife resources, it was unavoidable that their complaints would center on the Department's hesitant response at the resource level. Because of those considerations, as well as the needs of some animal populations, the decrease in the quantity and quality of habitats and the anticipated growth in the demand, wildlife supply has become a predominant concern for the Department.

In that context, aside from some follow-up of wildlife use, two approaches could be considered: artificial support on the one hand and the maintenance, improvement and restoration of wildlife habitats on the other hand. As far as the first alternative was concerned, its long term effectiveness has not been demonstrated and it seemed preferable

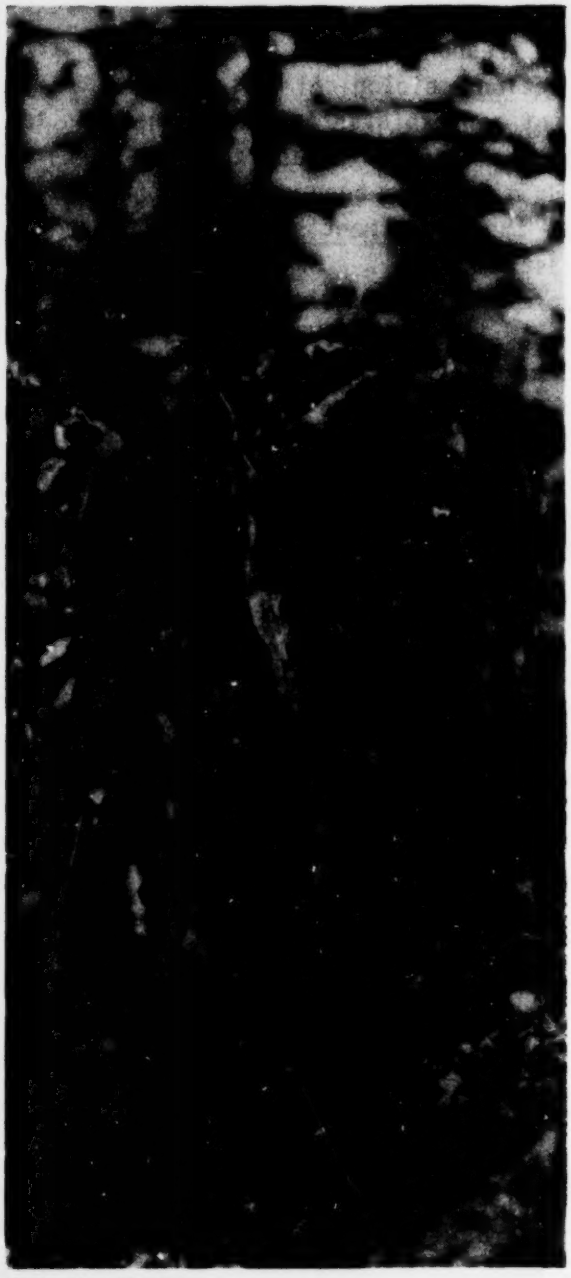


Photo: Marcel Lacasse

not to resort to it except in cases of extreme need. Intervention at the habitat level seemed the most promising direction to take to ensure the maintenance and improvement of wildlife populations without any risk of adverse consequences for the wildlife.

In the present context, such an option could not be implemented without difficulties because the responsbility for action is shared between several agencies, because several groups defend conflicting interests and because various types of users have expectations which are often incompatible with one another and with those of other users in the same territory.

PART 2

THE NEED FOR ACTION

The present situation already suggests priority actions which the Department must take but what is called for is something more than mere ad hoc measures. It would be unwise to change the operating pattern of the Department without first updating its objectives in the light of the new context.

This section will try to define the renewed mandate of the Department.

While the need for some renewal is obvious, taking into account what has been said earlier, such a need is not dictated solely by internal shortcomings. There are at least two other reasons. First, the ministère du Loisir, de la Chasse et de la Pêche must come to terms with the major socio-economic changes which have occurred in the last few years. Social evolution has considerably altered the final uses of wildlife, to the point that the Department cannot by itself undertake the protection, conservation and development of habitats or control the use of wildlife resources. Secondly, the ministère du Loisir, de la Chasse et de la Pêche must assume the social, cultural and economic mandate given to it by the Government and must meet public expectations in that regard. It must be emphasized that we are talking about a unique heritage, an exceptional resource used by millions of Quebecers and bringing Quebec's economy several hundred million dollars each year.

2.1 REAFFIRMATION OF CERTAIN OBJECTIVES

This is not the first time that the wildlife sector has turned its efforts towards planning and direction. Several committees responsible for studying

Photo: Marcel Lacasse

ESTIMATED EXPENDITURES FROM ACTIVITIES RELATED TO WILDLIFE USE IN QUEBEC, 1980

ACTIVITY	Estimated expenditures by		Total expenditures
	Residents	Non-residents	
	('000 000 $)	('000 000 $)	('000 000 $)
Consumptive activities	383,1 $	27,5 $	410,6 $
Fishing	250,5 $	24,5 $	275,0 $
Hunting	119,4 $	3,0 $	122,4 $
Trapping	13,2 $	--	13,2 $
Non-consumptive activities	210,6 $	--	210,6 $
Observation and photography	47,6 $	--	47,6 $
Visit to zoos and aquariums	10,9 $	--	10,9 $
Feeding	19,3 $	--	19,3 $
Reading	21,1 $	--	21,1 $
Others activities	111,7 $	--	111,7 $
All activities	593,7 $	27,5 $	621,2 $

NOTE:

--: data not available.

SOURCE: LACASSE, Marcel - Ducharme, Jean-Luc - Pelletier, Jacques. "Le loisir relié à l'utilisation de la faune au Québec. Étude auprès de la population". Direction générale de la faune. MLCP. 1982.

ESTIMATED ECONOMIC IMPACT OF EXPENDITURES RELATED TO WILDLIFE USE IN QUÉBEC, 1980

Economic variable	Consumptive activities ('000 000 $)	Non-consumptive activities ('000 000 $)	Total impact ('000 000 $)
Total employment (person-years)	7 841	5 367	13 208
Salaries and wages before tax	104,3 $	61,4 $	165,7 $
Other gross income before tax	114,7 $	62,2 $	176,9 $
Added value	219,0 $	123,6 $	342,6 $
Imports	121,7 $	68,7 $	190,4 $
Québec government revenue	39,1 $	19,1 $	58,2 $
Federal government revenue	27,5 $	12,9 $	40,4 $

NOTE:

(1) Does not include the economic impact of expenditures made in Québec by non-residents.

SOURCE: LACASSE, Marcel - Ducharme, Jean-Luc - Pelletier, Jacques. "Le loisir relié à l'utilisation de la faune au Québec. Étude auprès de la population". Direction générale de la faune. MLCP.

various species or groups of species each year review the measures most relevant to a sound management of the resource. Each year, program reviews also try to analyse specific aspects and outline new objectives to be achieved. But, because of the changes, more flexible and more efficient evaluation methods are now required. Although planning has often been initiated in response to problems and rarely on the basis of development concerns, several components seem appropriate and should be mentioned here.

All agree that the ministère du Loisir, de la Chasse et de la Pêche **must ensure the perpetuation of Québec's wildlife species.** The reaffirmation of that main objective imposes some form of continuity of any step taken. In that spirit, efforts made to protect and preserve species and their habitats are self-justifying.

Accessibility to the use of the resource is another important component of the Department's range of actions. The Department recognizes that making the stocks available according to biological criteria **shall aim at optimizing the use of wildlife in all its forms as well as maximizing the number of recreational days.**

Since the wildlife heritage constitutes a collective wealth as well as an important indicator of well-being, the Department believes that each individual is affected by the development of this resource and must therefore take part in it.

2.2 NEW CHALLENGES

Although the reaffirmed objectives cover a wide range of actions, the Department is aware of the absence of immediate solutions for many of the problems which have arisen in previous assessments. As a result, the Department today must not only turn its efforts towards the achievement of existing objectives but also define new objectives.

Under its enabling legislation, the ministère du Loisir, de la Chasse et de la Pêche **must play a leadership role.** Accordingly, it is responsible **for demonstrating the close links which exist between habitats and the animal populations which they support and for specifying its requirements for the protection of wildlife habitats; it is also responsible for seeking a greater involvement of those who have some form of responsibility for wildlife habitat, in that process.**

Efforts must also be made to gather **more information on the distribution patterns and dynamics of animal populations, on the factors affecting the distribution and quality of habitats and on the breakdown of the demand as well as on public expectations.**

It has been mentioned earlier that the Department has delegated part of its management responsibilities over the last 10 years. That has led some to ask for more responsibilities and has been a cause of discontent for others. While the principle of management delegation does not seem to be questioned today, the solution to some of the problems encountered must be found in a greater delegation of responsibilities and in the search for a better balance between the responsibilities given, the powers inherent in those responsibilities and the autonomy required to exercice those powers.

Any individual or agency wanting to do things right must develop mechanisms to assess to what extent objectives have been achieved. Accordingly, the Department should not undertake any reform whatsoever without selecting strict performance criteria which could be used by anyone to evaluate if the established objectives have been met and if managers and other participants have been effective. At this point, it would seem beneficial to share with other interested parties the task of assessing the performance of the various programs and measures developed by the Department.

The Department will also have to take a greater interest in commercial activities related to the use of wildlife and pay more attention to inland commercial fishing and to the promotion of economic sectors centered on the production of goods and services required by the use of wildlife and likely to be of interest to Québec's small and medium-size businesses.

2.3 THE PHILOSOPHY

Before developing strategies, even though some appear obvious, it is useful to outline the basic philosophy. In fact, it would be futile to try and define specific mandates without making sure that all concerned understand at least the new spirit which drives the Department and the underlying principles of the required changes.

As the custodian of a collective resource, the ministère du Loisir, de la Chasse et de la Pêche must actively promote wildlife both to the users and to the general public.

The Department must facilitate the development of all forms of leisure activities related to the use of wildlife and ensure that the users financial contribution, especially in the case of wildlife consumptive activities, corresponds to the costs of the services received. Furthermore, that form of use will continue to be based on the principle of using available surpluses. In the future, the public will be called

public will be called upon to contribute more money and more individual experience.

In his development, man often changes his environment. However, it has often been noticed that, if the environment is changed to the extent that it can no longer support animal life, it is often inhospitable to man. That fact demonstrates very well the close links which exist between wildlife habitats and species which live in it. Too many departments, agencies, firms and individuals forget that those links constitute the basic element of natural productivity and therefore the basic element of the perpetuation of living species. The Department will base all its actions on that concept and will try to promote that attitude in other interested parties.

The ministère du Loisir, de la Chasse et de la Pêche recognizes that accessibility of the resource to Quebecers overrides all principles and alternatives. In Québec, wildlife is a resource which belongs to everyone and all have a right to its use. However, the Department acknowledges the historical hunting, fishing and trapping rights of the native people.

PART 3

STRATEGIES

After having presented the main problems found in the development of Québec wildlife, after having revised and completed the objectives to aim for and after having set down the main steps for future development, remains to establish the manner in which the Ministère du Loisir, de la Chasse et de la Pêche will make these steps concrete.

This chapter will therefore put forth a set of actions to be taken and decisions to be made in view of offering resonable guarantees for a well balanced development plan. It is advisable, however, to assume that at one time or another a few of these strategies will appear to some as being closely related to the problem itself. A logical link between the problems raised and the proposed solutions will not always be apparent. Some solutions will pertain to a specific problem and others to a group of problems, in this way treating the situation as a whole.

3.1 HABITAT

The wildlife habitat is becoming for the Department a primary sector of intervention. It was made evident in previously assessments that several wildlife habitats had been destroyed, especialy during the last 20 years, to make room for the increasing needs of development in all sectors of human activities. It is this concept of territorial development which is responsible to a great extent for the precarious situation numerous animal populations of Québec are in today. It is an illusion to believe that it is possible to constantly reduce the capacity of certain territories to support wildlife while maintaining a wildlife population which is abundant and of good quality. The Department has observed that this attitude has taken on such proportions that it must intervene and take the necessary steps to alter the situation. The Department also feels obliged to do everything possible not only to correct this tendency but to pay back its dept to nature.

In addition to the measures it has taken, such as creating refuges and the "Fondation pour la conservation et la mise en valeur de la faune et de son habitat", the Ministère du Loisir, de la Chasse et de la Pêche will multiply and diversify its information programs on the role which the wildlife habitat plays in the reproduction of animal species. This will be aimed at the administrators concerned, at those who use Québec waters and forests, as well as at the public in general. Pursuant to the analysis of the needs for the conservation of wildlife habitats and to the recommendations made by the task force mandated for this purpose, the Ministère du Loisir, de la Chasse et de la Pêche will take the strong actions

necessary to efficiently ensure the safeguard and improvement of wildlife habitats.

Moreover, the Ministère du Loisir, de la Chasse et de la Pêche will embody its actions within an integrated method of land management in order that wildlife be henceforth regarded on the same level as other resources. Lastly, the Department will establish the outlines of a program on these matters.

3.2 WILDLIFE

The analysis of the wildlife supply leads to the consideration of wildlife as a renewable natural resource subject to many limitative factors. Some of these factors, notably climatic conditions and other uncontrollable natural events, escape from all human intervention and have a significant influence on the evolution and distribution of natural populations. Luckily, man is not impotent when faced by other limiting factors, such as the loss of habitats and the framework for exploitation, and can through energetic actions of conservation ensure the continuation of this heritage.

The Ministère du Loisir, de la Chasse et de la Pêche has for a long time assumed some important duties relating to the protection, management, research and development of wildlife resources, especially those in demand for recreational purposes. Moreover, the new law respecting the conservation and development of wildlife gives the Department the responsibility of managing the aquatic wildlife of non-tidal waters and also the anadromous and catadromous species. The analysis of the demand for wildlife, in all its uses, shows that for the past 10 years or so we have been witnessing a sustained growth in the population's rate of participation and also a clear tendency for an increased level of activity. The raising of harvest limits is the immediate corollary of these two states of affairs. The other sectors of exploitation also show an intensification of their activities bringing about an increase not only in the commercial invasion but also of the subsistence harvest.

Such upward tendencies cannot persist without threatening the balance of certain species. It is also foreseeable that without intervention the conflicts between the different types of wildlife resource users will become more serious and more frequent particularly for those territories which are close to urban centers.

While Québec's wildlife seems to be abundant enough, it is unevenly distributed.

Photo: Fred Klus

Because of present and probable problems, it is important to coordinate the actions of all participants in order **to establish wildlife resource allocation plans** which take into account both public expectations and the biological constraints of the species concerned.

More specifically, biological research **must be directed towards acquiring more comprehensive information on the various animal species,** whether or not they are harvested, **and towards the establishment of wildlife population status indicators** by giving each species or group of species a specific conservation status. **Government research will give priority to the optimum development of the resources while the private sector and the universities may be given research work of a more basic nature.** This strategy should include commercial activities.

Protection functions must be changed so as to cover a wider field and involve a greater number of agencies.

Conservation officers **must place an even greater emphasis on education and prevention as well as on the promotion of wildlife and its habitats.** In their efforts of support the productivity researchers and managers **must make greater use of the conservation**

officers' experience and knowledge, since these officers are in close and frequent contact with both wildlife and users.

To increase conservation efforts, it would be beneficial to secure the assistance of the various surveillance and inspection authorities of Québec, not only to enforce "la loi sur la conservation et la mise en valeur de la faune" and enhance wildlife but also to protect wildlife and its habitats.

3.3 RECREATIONAL USE

Fishing and hunting are important leisure activities in Québec. While the end purpose of hunting, fishing and trapping has considerably changed over the centuries, these activities still play a major social and economic role today. As a result, the ministère du Loisir, de la Chasse et de la Pêche must maintain and develop the greatest possible number of activities related to the use of wildlife.

Among all those who are trying to establish such objectives, Québec seems to benefit from its favorable position. The analysis of Québec's wildlife potential and of its use shows an overall excess of the supply over the demand. Therefore, in principle, there is nothing to prevent a major increase in the number of recreational days, even if the present levels of success are maintained.

It should not, however, be thought that the use of wildlife in Québec does not have its share of problems. The disorganized development of the various types of uses directly affects the condition of several animal populations and the use of certain territories. Some species are over-harvested while others would benefit from a greater harvest. Several users seem indifferent towards some territories, methods or times of the year. That only further accentuates the sectorial imbalances which have been observed.

Presently, there does not seem to be any justification for basing the development of wildlife use on some form of quota system. Instead, the ministère du Loisir, de la Chasse et de la Pêche intends to promote accessibility to wildlife use, especially for the target populations indicated in the White Book on leisure activities, by relying on the development of user distribution plans. The Department also recognizes that non-residents must be considered.

The development and implementation of these plans must strive for a better distribution of the demand by increasing and promoting a better use of the services offered, by reviewing the purpose of the reserves and their present

size, by simplifying service accessiblity , and by promoting under-harvested species, accessible but little used territories and the least popular forms of use. Thus, departmental action will be centered on increasing the possibilities of wildlife use on a daily basis near population centers.

In order to meet the demand, the Department must also become more involved in non-consumptive activities. The rapid growth which is foreseen for those activities prompts the Department to show more respect for the desires of the various types of users, by developing programs which can enhance the species sought after for non-consumptive activities and setting up natural or man-made observations sites, as well as by adjusting the relevant regulations so as to minimize conflicts in wildlife use. There will also be a review of the regulations of keeping wild animals in captivity.

The Department will also have to make more regular and coherent efforts to pursue a program of socio-economic research based both on the measurement of public expectations about wildlife use and on the assessment of wildlife harvest ensuing from recreational, subsistence or poaching activities.

3.4 MANAGEMENT

The implementation of strategic elements relating to habitats, wildlife and its use largely depends on the Department taking some key steps within its own organization. The success of this reform will therefore depend on the skill with which managers can adjust the existing administrative processes and on the wisdom they will demonstrate in the future.

The first priority must be to review and update the wildlife management manuals, to develop wildlife use plans and to complete and implement regional development plans and to finish the management plans concerning Development and Conservation Zones. Once that framework is established, the Department's decision-making will be both faster and more coherent.

The existing public relations organization will be improved by another set of measures. The Department will increase and enhance services offered to wildlife users, review and simplify the regulations, establish a plan for the preparation and distribution of information on wildlife and its use, develop a program of public information and education and reach the young in the school environment by using a wide variety of educational materials. All this will contribute to the projection of the Department as responsible for wildlife in Quebec.

The problems experienced by the Department with the use and distribution of statistical data may be compounded in

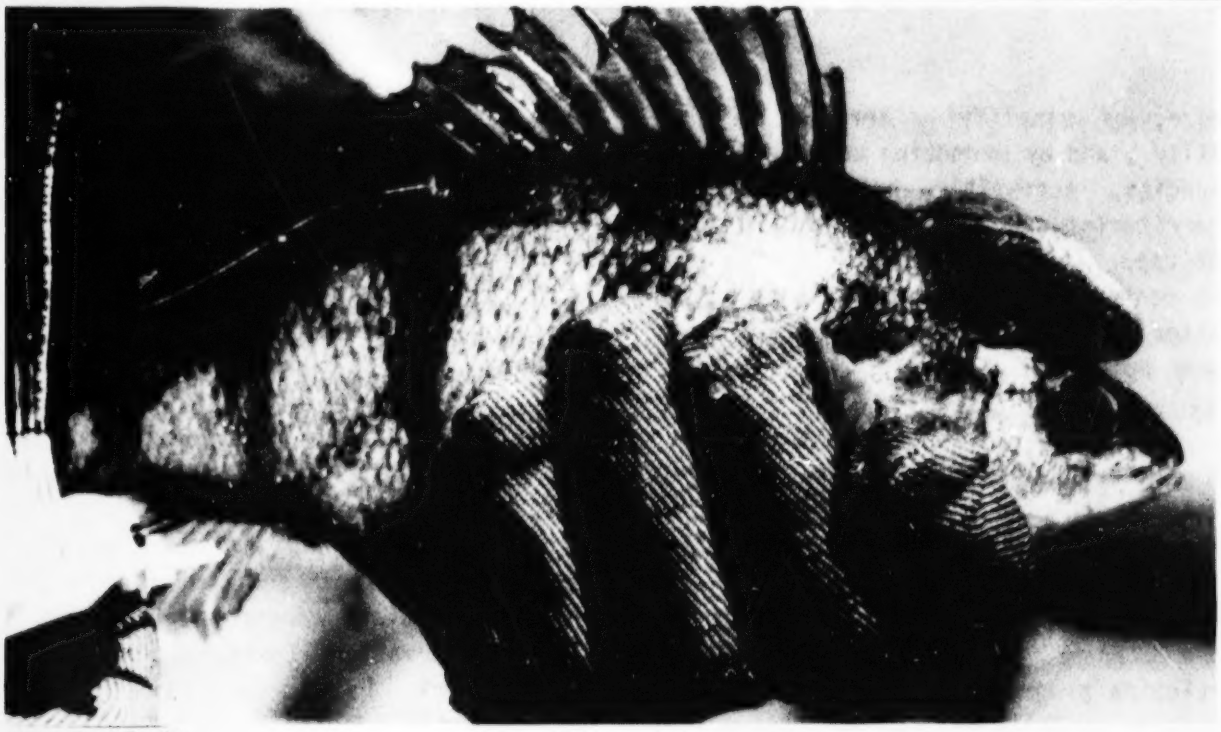


Photo: Pierre Bernier

the objective of obtaining more information. Data collection must therefore be more selective and comply with information acquisition plans and data management policies. The Department will also be responsible for promoting the distribution of research data and for seeking the scientific involvement of a greater number of its experts.

When administrative policies were reviewed, the results of delegating responsibilities to groups of users were deemed sufficiently convincing to justify staying on that course. It would therefore be appropriate to promote citizens groups with an interest in wildlife management, use and conservation, to offer increased technical support to those groups and to give them a greater role in wildlife management. Such a delegation requires that the various functions be adapted to the aptitudes and availability of the groups and that they be given a sufficient degree of latitute to sustain their interest.

Finally, such a program cannot become a reality overnight. Some measures will require a change in attitude, others will call for the development of adequate tactical plans. To be reasonably sure of meeting the challenges with

which it is faced, the ministère du Loisir, de la Chasse et de la Pêche must be able to avoid costly mistakes or the omissions which can be so easily made in the administration of routine business.

That is why the Department intends to put more emphasis on the consultation process already initiated. It will contact various interested parties such as the Québec Wildlife Federation, the Québec Wildlife Conservation Association, the Québec Association of ZEC managers, the Trappers' Association, the Outfitters' Association, special interest groups, user groups, etc., and will invite them to play an increasingly greater part in the wildlife management process.

To achieve that objective, while avoiding the inherent time - consuming obstacles of such mechanisms, the ministère du Loisir, de la Chasse et de la Pêche is considering gathering together representatives from the various groups, including the user groups.

Throughout this process of consultation, the Department will receive comments and recommendations on the main wildlife conservation, management and use alternatives.

CONCLUSION

The various elements outlined in this document demonstrate once more that the government cannot and should not do everything by itself. In the specific field of wildlife management, the ministère du Loisir, de la Chasse et de la Pêche would be misusing its powers if it did not seek the collaboration of a great many people.

While it is understood that the implementation of these strategies will present problems, the main one is that they are much too interdependent to be applied in piecemeal fashion. While the Direction générale de la faune must spearhead the necessary reform, any success depends very much on the decompartmentalization efforts made by all participants. The acceptance of these strategies is therefore something which concerns the whole administrative structure of the Department.

The existing strategic development plan can be improved and should be complemented by adequate steps such as the establishment of tactical plans and the development of an overall action plan. With this document, the ministère du Loisir, de la Chasse et de la Pêche can now gain sufficient insight into the matter to meet the challenge of wildlife management in Québec.